

REMARKS

The Examiner objected to the specification as failing to provide antecedent basis for the claimed subject matter relating to a “digital domain” and “RF.”

Turning first to “digital domain,” Applicants point out that the application as originally filed used the phrase “digital domain” in originally filed claims 11 and 28. Applicants would further point out that the phrase “digital domain” is well known and understood by those skilled in the art to refer to processing operations performed by digital circuitry, such the digital tuners and decoders disclosed in the specification. Paragraphs 7, 36, 41, 73, and 74 of the specification further refer to a “digital part” which Applicants would assert supports the claimed “digital domain” language and would be understood as such by one skilled in the art. Applicants present an amendment to the specification to provide explicit support for “digital domain”.

Turning next to “RF,” Applicants submit that this is an acronym well known to those skilled in the art as “radio frequency.” The specification and drawings both support reception of signals in the 950MHz-2150MHz bandwidth which are known to those skilled in the art to be radio frequency, or RF, signals. Paragraphs 2 and 8 of the specification further refer to “radiofrequency” which Applicants would assert clearly supports the claimed “RF” language. Applicants present an amendment to the specification to provide explicit support for “RF” with respect to “radio frequency.”

The claims were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. This rejection concerns the claim language for “RF” and “digital domain.” Applicants respectfully request reconsideration and withdrawal of this Section 112 rejection in view of the comments presented above and the amendments to the specification presented herein.

Claim 6 has been amended to include the limitations of base claim 1 and a portion of intervening claim 4. Applicants submit that claim 6 is patentable over the cited prior art which does not disclose the claimed circuit.

Claim 18 has been amended to include the limitations of base claim 10 and a portion of intervening claim 16. Applicants submit that claim 18 is patentable over the cited prior art which does not disclose the claimed circuit.

Claim 53 has been amended to include the limitations of base claim 38 and a portion of intervening claim 51. Applicants submit that claim 53 is patentable over the cited prior art which does not disclose the claimed circuit.

Claim 1 was rejected under 35 U.S.C. 103(a) as being unpatentable over Tan. This rejection is moot in view of the amendments made to claim 1.

In the Advisory Action, the Examiner noted Applicants' argument concerning noise as a reason why it was not an obvious engineering choice for one skilled in the art to mix analog and digital circuitry on a single monolithic substrate. The Examiner indicated that this was not explicitly claimed and suggested that Applicants consider amending the claims to emphasize this point and clarify the nature of the claimed invention.

Claim 1 has been amended to recite "wherein the analog circuitry of the tuning circuit is fabricated in a ***first portion*** of that single monolithic substrate and digital circuitry of the tuning circuit and the several channel decoding circuits are fabricated in a ***second portion*** of that single monolithic substrate; and ***a semiconducting barrier formed in the single monolithic substrate between the first portion and the second portion to insulate the analog circuitry in the first portion from noise on a supply voltage for the digital circuitry in the second portion***" (emphasis added). Applicants submit that the claim amendments address the issue raised by the Examiner and claim the improvement/benefit of the present invention.

The claimed first and second portions, with the claimed semiconductor barrier that insulates against noise on the digital supply voltage, are not disclosed or suggested by Tan. Claim 1 is accordingly patentable over Tan.

Claim 9 was rejected under 35 U.S.C. 103(a) as being unpatentable over Tan in view of Tomasz. Dependent claim 9 is patentable over the cited prior art for at least the reasons recited above with respect to claim 1.

Claim 2 was rejected under 35 U.S.C. 103(a) as being unpatentable over Tan in view of Tomasz and Robbins. Dependent claim 2 is patentable over the cited prior art for at least the reasons recited above with respect to claim 1.

Claim 3 was rejected under 35 U.S.C. 103(a) as being unpatentable over Tan in view of Tomasz and Hwang. Dependent claim 3 is patentable over the cited prior art for at least the reasons recited above with respect to claim 1. Claim 3 has also been amended to emphasize a distinction over the cited prior art with respect to the additional filter in the channel decoding circuit.

Claims 4-6 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tan in view of Tomasz, Hwang and Robbins.

Applicants note that this rejection of claim 6 is inconsistent with the Examiner's indication that dependent claim 6 contains patentable subject matter. Applicants assume that the inclusion of claim 6 in this rejection is a mistake. Claim 6 has been amended into independent form and is believed to be patentable over the cited art.

Dependent claims 4-5 are patentable over the cited prior art for at least the reasons recited above with respect to claim 1. Claim 4 has also been amended to emphasize a distinction over the cited prior art with respect to the additional filter in the channel decoding circuit.

Claims 7 and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tan in view of Lieber. Applicants respectfully traverse and request reconsideration.

Claim 7 has been amended to include the limitations of base claim 1 as well as include additional limitations. Claim 7 recites "a grounding metal plate glued to a rear face of the single monolithic substrate by a conducting glue to provide a high frequency current spike absorbing capacitor having a first plate formed of the substrate and a second plate formed of the metal plate with an oxide dielectric there between." The Examiner points to Lieber's "metalized layer." This layer is not glued to the back of a substrate as claimed, and further does not form a spike absorbing capacitor structure as claimed. Claim 7 accordingly distinguishes over the cited prior art.

Claim 8 has been amended to support the noise insulating limitations added to independent claim 1. Claim 8 is patentable over the cited prior art for at least the reasons recited

above with respect to claim 1. Additionally, claim 8 is patentable over the teachings of Lieber because Lieber does not teach the claimed separate portions relating to analog and digital circuitry and further does not teach the insulating structure and separate biasing voltage as claimed. Claim 8 accordingly distinguishes over the cited prior art.

Claims 10-11, 13-15, 20, 38, 48-50 and 55 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tomasz in view of Robbins.

Claim 10 has been amended to emphasize “a grounding metal plate glued to a rear face of the single monolithic substrate by a conducting glue to provide a high frequency current spike absorbing capacitor having a first plate formed of the substrate and a second plate formed of the metal plate with an oxide dielectric there between.” Amended claim 10 is patentable over the cited prior art for at least the reasons recited above with respect to claim 7.

Dependent claims 11, 13-15 and 20 are patentable over the prior art for at least the reasons recited above with respect to claim 10.

Claim 38 has been amended to emphasize “wherein the analog filtering circuitry of the tuner circuit is fabricated in a first portion of that single monolithic substrate and digital circuitry of the tuner circuit and the first and second channel decoder circuits are fabricated in a second portion of that single monolithic substrate; and a semiconducting barrier formed in the single monolithic substrate between the first portion and the second portion to insulate the analog circuitry in the first portion from noise on a supply voltage for the digital circuitry in the second portion.” Amended claim 38 is patentable over the cited prior art for at least the reasons recited above with respect to claim 1.

Dependent claims 48-50 and 55 are patentable over the prior art for at least the reasons recited above with respect to claim 38.

Claims 16-18 and 51-53 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tomasz in view of Robbins and Hwang.

Applicants note that this rejection of claim 18 is inconsistent with the Examiner’s indication that dependent claim 18 contains patentable subject matter. Applicants assume that the inclusion of claim 18 in this rejection is a mistake. Claim 18 has been amended into independent form and is believed to be patentable over the cited art.

Applicants note that this rejection of claim 53 is inconsistent with the Examiner's indication that dependent claim 53 contains patentable subject matter. Applicants assume that the inclusion of claim 53 in this rejection is a mistake. Claim 53 has been amended into independent form and is believed to be patentable over the cited art.

Dependent claims 16-17 are patentable over the prior art for at least the reasons recited above with respect to claim 10.

Dependent claims 51-52 are patentable over the prior art for at least the reasons recited above with respect to claim 38.

Claims 21-28, 30-32, 37, 39 and 40-46 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tomasz in view of Robbins and Young.

Claim 21 has been amended to include the limitations of dependent claim 35 and a portion of dependent claim 33. Claim 21 is believed to be patentable over the cited prior art which fails to teach or suggest "the first and second channel decoding circuits including a digital filter that filters out the adjacent channel information, that digital filter being a Nyquist filter having a cut-off frequency approximately equal to the frequency half width of the channel."

Dependent claims 22-28, 30-32 and 37 are patentable over the prior art for at least the reasons recited above with respect to claim 21.

Dependent claims 39 and 40-46 are patentable over the prior art for at least the reasons recited above with respect to claim 38.

Claims 12 and 47 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tomasz in view of Robbins and Dapper. These dependent claims are asserted to be patentable over the prior art for at least the reasons recited above with respect to their independent claims.

Claims 19 and 54 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tomasz in view of Robbins and Lieber. Claim 19 has been canceled and its subject matter added to claim 10. Claim 10 is patentable over the art for the reasons recited above. Dependent claim 54 is asserted to be patentable over the prior art for at least the reasons recited above with respect to its independent claim 38. Additionally, Claim 54 has been amended and Applicants respectfully submit that claim 54 is patentable over the cited prior art for the reasons recited above with respect to claim 7.

Claim 29 was rejected under 35 U.S.C. 103(a) as being unpatentable over Tomasz in view of Robbins, Young and Dapper. Dependent claim 29 is patentable over the cited prior art for at least the reasons recited above with respect to claim 21.

Claims 33-35 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tomasz in view of Robbins, Young and Hwang. Claim 35 has been canceled. Dependent claims 33-34 are patentable over the cited prior art for at least the reasons recited above with respect to claim 21.

Claim 36 was rejected under 35 U.S.C. 103(a) as being unpatentable over Tomasz in view of Robbins, Young and Lieber. Dependent claim 36 is patentable over the cited prior art for at least the reasons recited above with respect to claim 21. Additionally, Claim 36 has been amended and Applicants respectfully submit that claim 36 is patentable over the cited prior art for the reasons recited above with respect to claim 7.

In view of the foregoing, Applicants respectfully submit that the application is in condition for favorable action and allowance.

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Respectfully submitted,

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